USSR UDC 539.4:624

ASSAULENKO, O. P.

"Design of Buildings for Seismic Effects Considering Mutual Correlation of Three-Dimensional Oscillation Forms"

Izv. Vyssh. Ucheb. Zavedeniy. Str-vo i Arkhit. [News of Higher Educational Institutions, Construction and Architecture], No 6, 1972, pp 12-19, (Translated from Referativnyy Zhurnal, Mekhanika, No 11, 1972, Abstract No 11 V910 by the author).

Translation: A theory is presented for the design of buildings for earthquake resistance, considering the mutual correlation of the generalized coordinates and three-dimensional forms of oscillation of buildings. It is demonstrated on the example of design of a frame building that it is incorrect to ignore the higher tones of the natural oscillations of buildings and additional correlation components of the generalized coordinates, since this greatly reduces the seismic loadings as calculated. 5 Biblio. Refs.

1/2 022 UNCLASSIFIED PROCESSING DATE--11SEP70
TITLE--SOME BIOCHEMICAL FINDINGS ON PATIENTS WITH PRIMARY CANCER OF THE LIVER AS RELATED TO CHEMOTHERAPY -U-
AUTHOR--PASHINTSEVA, L.P., KRUSANOVA, N.I., ASSEKRITOVA, I.V.

COUNTRY OF INFO--USSR

SOURCE--VESTNIK AKADEMII MEDITSINSKIKH NAUK SSSR, VOL 25, NO 2, 1970, PAGES 39-43
DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--CANCER, LIVER, BLOOD SERUM, CHEMOTHERAPY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1986/0725 STEP NO--UR/0248/70/025/002/0039/0043

CIRC ACCESSION NO--AP0102695

UNCLASSIFIED

2/2 .022 UNCLASSIFIED PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0102695

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PURPOSE OF THE PRESENT WORK WAS TO INVESTIGATE THE DYNAMICS OF SOME BIOCHEMICAL BLOOD SERUM INDICES OF PATIENTS WITH PRIMARY CANCER OF THE LIVER UNDER THE INFLUENCE OF CHEMOTHERAPY.

UNCLASSIFIED

USSR

UDC 662.311.1

ASSOVSKIY, I. G., ISMRAMOV, A. G., Moscow

"Combustion of Powders Under Light Irradiation"

Zhurnal Prikladnoy Mekhaniki i Tekhnicheskoy Fiziki, No 5, 1971, pp 70-77.

ABSTRACT: The work available in the literature on unstable processes under the influence of light irradiation is dedicated primarily to the problem of ignition. This work presents an attempt to evaluate the dependence of powder combustion rate on the intensity of light radiation. Cases of stable combustion and the mode of combustion with harmonically changing light flux are studied. It is assumed that the light flux striking the surface of the powder is absorbed in the condensed phase with constant transparency index. It is demonstrated that in the stable mode, light irradiation is equivalent to a certain increase in the initial powder temperature. This allows the use of data on stable combustion without irradiation. Unstable combustion with periodically changing light flux was described using a model suggested by B. V. Novochilov. A correction is produced to the mean combustion rate, proportional to the square of the amplitude of the light flux. In the case of exponential dependence of burning rate on initial temperature, this correction is negative.

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USSR

UDC 536.46

ASSOVSKIY, I. G., ISTRATOV, A. G., LIBROVICH, V. B., Moscow

"Necessary Conditions for Gradual Changes in Combustion Rates of Condensed Systems"

Zhurnal Prikladnoy Mekhaniki i Tekhnicheskoy Fiziki, No 6, 1971, pp 57-64.

ABSTRACT: The ordinary statement of the problem for the theory of the combustion of condensed systems consists in that the combustion rate u must be determined on the basis of fixed external actions on the system (pressure p, light flux q, erosion gas flow rate g, etc.). The solution of this problem (the direct problem) must be interpreted as determination of sufficient conditions for achievement of a fixed change in combustion rate. Along with the direct problem, there is interest in the reverse problem: determination of conditions necessary to achieve a fixed rate of change of combustion with time u(t). In this work, using the combustion model of Ye. B. Zel'dovich, a precise solution is achieved to the reverse problem in the case when the change in combustion rate u with time t is fixed as a stepped change in rate from stable quantity u_0 where $t < t_0$ to stable quantity u_1 where $t > t_0$.

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1/4 022 UNCLASSIFIED PROCESSING DATE--16OCT70

TITLE--AN EXPERIMENT IN THE ELEKTROTECHNICAL INDUSTRY -U-

AUTHOR-(03)-GRIBOV, V., NIKITIN, YU., ASTAF, YEV.V.

COUNTRY OF INFO--USSR

SOURCE--EKONOMICHESKAYA GAZETA, JULY, 1970, NR 27, SUPPLEMENT

DATE PUBLISHED----JUL70

SUBJECT AREAS--ELECTRONICS AND ELECTRICAL ENGR., BEHAVIORAL AND SOCIAL SCIENCES

TOPIC TAGS--R AND D FACILITY ORGANIZATION, R AND D MANAGEMENT, DESIGN BUREAU, TEST FACILITY GROWTH, R AND D PLANNING, ELECTRONIC INDUSTRY, ELECTRIC INDUSTRY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1993/1138 STEP NO--UR/9001/70/000/027/0000/0000

CIRC ACCESSION NO--AN0113890

UNCLASSIFIED

2/4 022 UNCLASSIFIED PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AN0113890

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE GOAL OF THE EXPERIMENT IS TO REDUCE, INASMUCH AS POSSIBLE, THE TIME LAG BETWEEN THE CONCEPTION OF THE ADVANCED IDEA AND ITS TRANSLATION INTO A NEW PRODUCT. THE FIRST STEP IN THIS DIRECTION WAS THE REORGANIZATION OF THE RESEARCH AND DEVELOPMENT FACILITIES OF THE MINISTRY. IT WAS DECIDED (1) TO CENTRALIZE, INASMUCH AS POSSIBLE, BASIC RESEARCH AND RESEARCH AND DEVELOPMENT MANAGEMENT IN CERTAIN AREAS OF THE INDUSTRY, (2) TO MAXIMIZE THE SPECIALIZATION OF RESEARCH INSTITUTES AND DESIGN BUREAUS, (3) TO CREATE CLOSER RELATIONS BETWEEN RESEARCH INSTITUTES AND DESIGN BUREAUS, AND INDUSTRY, (4) TO STRENGTHEN AND EXPAND EXPERIMENTAL AND PILOT PLANT FACILITIES. AS A RESULT, 15 LEADING (GOLOVNYYE) INSTITUTES, 2 BRANCHES OF THESE INSTITUTES, AND 2 SPECIALIZED INSTITUTES HAVE BEEN REORGANIZED AS 17 COMPREHENSIVE SCIENTIFIC RESEARCH INSTITUTES, DESIGN PLANNING AND TECHNOLOGICAL INSTITUTES, THE INFORMELEKTRO INSTITUTE. 17 OF THE 33 AFFILIATES OF LEADING INSTITUTES HAVE BEEN TRANSFERRED UNDER DIRECT CONTROL OF INDUSTRIAL PLANTS. THE OTHER 16 ARE RESPONSIBLE TO THE MINISTRY AND SERVE RIGIDLY DEFINED GROUPS OF INDUSTRIAL PLANTS. SPECIALIZED INSTITUTES AND CORRESPONDING PLANTS WERE MERGED TO FORM FOUR RESEARCH PRODUCTION CORPORATIONS, THE ELEKTROAPPARAT, THE ELEKTROKERAMIKA, THE KONDENSATOR, AND THE AKKUMULYATOR. IN THE PROCESS OF BEING ESTABLISHED IS THE FIFTH CORPORATION, THE ELEKTROPRIVOD. DESIGN PLANNING AND TECHNOLOGICAL BUREAUS HAVE BEEN ESTABLISHED AT EIGHT LARGE INDUSTRIAL ENTERPRISES THAT FORMERLY HAD NONE.

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3/4 022 UNCLASSIFIED PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AN0113890

ABSTRACT/EXTRACT--21 DESIGN TECHNOLOGICAL BUREAUS, WHICH FORMERLY WERE UNDER MINISTERIAL MANAGEMENT, HAVE BEEN TRANSFERRED TO INDUSTRIAL PLANTS. 10 SUCH BUREAUS WERE TRANSFERRED TO RESEARCH TECHNICAL CENTERS. ONLY 10 BUREAUS REMAIN UNDER DIRECT CONTROL OF THE MINISTRY. 16 PLANT RESEARCH LABORATORIES HAVE BEEN RECLASSIFIED AS RESEARCH ORGANIZATIONS. THE ARTICLE DISCUSSES THE NEW RESEARCH AND PRODUCTION PLANNING PROCEDURE WHICH IS BASED ON INTRAMINISTERIAL ORDERS TREATED AS CONTRACTS. SUCH AN ORDER ENCOMPASSES ALL STAGES OF RESEARCH, THE EXPLORATORY STAGE THROUGH THE EXPERIMENTAL STAGE, AND THE MANUFACTURE OF NEW PRODUCTS OR THE APPLICATION OF NEW TECHNOLOGICAL PROCESSES. THESE ORDERS ARE BASED ON FIVE YEAR AND ANNUAL PLANS, DECREES OF THE GOVERNMENT, COORDINATION PLANS APPROVED BY THE STATE COMMITTEE FOR SCIENCE AND TECHNOLOGY, LONG RANGE PLANS, OR DECISIONS OF THE MINISTRY OR ITS MAIN ADMINISTRATIONS. PRINCIPAL CONSUMERS ARE MAIN INDUSTRIAL ADMINISTRATIONS OF THE MINISTRY. ITS TECHNICAL ADMINISTRATION, AND FUNCTIONAL ADMINISTRATIONS. THE FORMER ARE RESPONSIBLE FOR PROBLEMS AND PRODUCTS RELATED TO THEIR PROFILES. THE SECOND IS RESPONSIBLE FOR COMPLEX EQUIPMENT, THE DEVELOPMENT OF WHICH IS RELEGATED TO THE ORGANIZATIONS AND PLANTS OF SEVERAL MAIN ADMINISTRATIONS. THE LATTER ARE INVOLVED IN ECONOMICAL PROBLEMS. THE ARTICLE ALSO DISCUSSES IN SOME DETAILS THE ECONOMIC INCENTIVES AND FINANCING OF RESEARCH AND DEVELOPMENT PROJECTS. A CHART IS GIVEN WHICH SHOWS HOW VARIOUS FUNDS ARE ALLOCATED. FACILITY: PLANNING ECONOMY ADMINISTRATION. FACILITY: FINANCE ADMINISTRATION. FACILITY: TECHNICAL ADMINISTRATION.

UNCLASSIFIED

4/4 022 UNCLASSIFIED PROCESSING DATE--16OCT70
CIRC ACCESSION NO--AN0113890
ABSTRACT/EXTRACT--FACILITY: MINISTRY OF THE ELECTROTECHNICAL INDUSTRY.

UNCLASSIFIED

USSR

UDC 669.243:669.046.42

BUMAZHNOV, F. T., and ASTAF'YEV, A. F.

"Desulfurization Kinetics of a Nodulized Nickel Concentrate"

Moscow, Tsvetnyye Metally, No 5, May 73, pp 21-23

Abstract: Results are presented from an investigation into the oxidation of a nodulized nickel concentrate for the purpose of explaining some kinetic principles of this process. An ordinary nickel concentrate containing (in %): 66.88 Ni, 1.6 Co, 3.66 Cu, 1.5 Fe, and 24.07 S, produced by flotation separation of a nickel-Copper converter matte, was used. Desulfurization was carried out using an oxygen blow with a flow rate of 0.236 m/sec at temperatures from 900 to 1200°C. With a charge containing 18% S the concentrate was half-desulfurized in three minutes at 900°C, in 2 minutes at 1000°C, in 1.3 minutes at 1100°C, and in one minute at 1200°C. A kinetic equation was derived which indicated that total desulfurization could be accomplished in 1.5 hours at 900°C and in one hour at 1100°C for a nodulized nickel concentrate, while for an unnodulized concentrate the process would take one hour and 40 minutes, which is far better than the 10-15 hours required using a KS furnace. 3 figures, 1 bibliographic reference.

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1/2 016 UNCLASSIFIED PROCESSING DATE--18SEP70

TITLE--CHARACTERISTICS OF DUST CARRIED OUT OF A FLUIDIZED BED FURNACE DURING THE ROASTING OF A NICKEL CONCENTRATE -U-

AUTHOR-(02)-SOLOVOV, N.I., ASTAFYEV, A.F.

COUNTRY OF INFO--USSR

SOURCE--TSVET. METAL. 1970, 43(2), 22-4

DATE PUBLISHED-------70

SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR

TOPIC TAGS--ROASTING FURNACE, AIR POLLUTION, CHEMICAL COMPOSITION, FLUIDIZED BED, NICKEL, COPPER, LEAD, SULFIDE, ORE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1989/0556 STEP NO--UR/0136/70/043/002/0022/0024

CIRC ACCESSION NO--AP0107161

UNCLASSIFIED

2/2 016 UNCLASSIFIED PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0107161

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PHYS. CHEM. AND MINERALOGICAL CHARACTERISTICS OF DUST CARRIED OUT OF A FLUIDIZED BED FURNACE DURING THE ROASTING OF NI CONC. PREPD. DURING THE FLOTATION SEPN. OF CU-NI CONVERTER MATTE WERE EXAMD. DUST SAMPLES WERE TAKEN DIRECTLY FROM THE GAS STREAM BY USING STANDARD TECHNOLOGY. SAMPLES WERE TAKEN ALSO FROM OTHER PARTS OF THE ENTIRE ASSEMBLAGE. BASED ON ITS PARTICLE SIZE, THE DUST IS SIMILAR TO THE STARTING NI CONC. THE FUNDAMENTAL SIZE OF THE GRAINS IS SMALLER THAN OR EQUAL TO 0.01 MM, AND IS RELATIVELY LIGHT WITH RESPECT TO ITS BULK D.; THE REMAINING DUST IS SOMEWHAT COARSER, AND HAS A SLIGHTLY HIGHER BULK D. THE COLLECTED DUST BECOMES SOMEWHAT IMPOVERISHED WITH NI DURING THE MOVEMENT OF THE GASES, AND AT THE SAME TIME BECOMES SOMEWHAT ENRICHED WITH S. ESP. SIGNIFICANT IS THE INCREASE IN THE SULFATE S. THE AS CONTENT IN THE DUST INCREASES BY 2 TIMES AS COMPARED WITH THE STARTING CONC., THAT OF PB INCREASES BY 5 TIMES, AND THAT OF SE BY 7 TIMES. THE DUST CONTAINS PRIMARILY THE FINEST NIO PARTICLES, WHICH ARE PARTIALLY ROASTED, AS WELL AS FREE SULFIDE COMPONENTS OF THE CONC. MANY PARTICLES IN THE DUST ARE IN THE FUSED STATE. ALL THE INCRUSTATIONS IN THE GAS CONDUIT SYSTEM HAVE A WELL EXPRESSED LAMELLAR STRUCTURE WITH DIFFERENT PHYS. CHEM. CHARACTERISTICS OF THE LAYERS. SOME OF THE LAYERS CONSIST ALMOST ENTIRELY OF NIO WITH INDIVIDUAL SULFIDE INCLUSIONS PRESENT, WHEREAS OTHER LAYERS CONSIT PRIMARILY OF SULFIDES. THE ABS. AMT. OF DUST CARRIED OUT INCREASED WITH INCREASED CONSUMPTION OF THE BATCH.

UNCLASSIFIED

USSR UDC 621.375.8

ASTAF'YEV, A. K.

"Conversion Factor of a Photoparametric Amplifier"

Tr. Mosk. elektrotekhn. in-ta svyazi (Works of the Moscow Institute of Electrical Communications Engineering), 1970, Vyp. 2, pp 3-6 (from RZh-Radiotekhnika, No 10, Oct 70, Abstract No 10D305)

Translation: It is shown that determination of the conversion factor of a diode used as a photoparametric amplifier requires taking account of the effect which the photocurrent has on the space charge, and consequently on capacitance of the PN junction and also on the reactive component of the conductivity of the diode (diffusion capacitance). Approximate estimates are given for the increment in the barrier and diffusion capacitances as a function of illumination. It is shown that in the case of a load, the effect of diffusion capacitance is not as appreciable as in the case of operation without a load. A. K.

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USSR UDC 621.791.01.004.13:620.178.2

ASTAF'YEV, A. S., Candidate of Technical Sciences, Central Scientific Research Institute for Ferrous Metallurgy

"Influence of Welding Modes on the Tendency of the Seam Zone of 18G2AYu Steel Toward Brittle Rupture"

Moscow, Svarochnoye Proizvodstvo, No 10, Oct 70, pp 24-27

Abstract: Studies of the influence of welding mode on the tendency of steel toward brittle rupture were performed using a method of A. P. Gulyayev, based on the assumption that the work of crack formation is directly proportional to the sharpness of the notch in a specimen. This allows the dependence of impact toughness on notch radius to be extrapolated to zero radius. The chemical composition of the normalized steels tested in specimens rolled to 20- and 25-mm thickness was: C 0.18-0.19%; Mn 1.50-1.70%, Si 0.50-0.60%, Cr 0-0.37%, Pi 0.01-0.06%, Al 0.10-0.12%, N 0.015-0.017%, S 0.015-0.011%, and P 0.023-0.021% for the 25- and 20-mm specimens, respectively. The studies showed that an increase in the ferrite component in the structure of the base metal significantly decreases the work of crack formation, slightly decreases the work of

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ASTAF'YEV, A. S., Svarochnoye Proizvodstvo, No 10, Oct 70, pp 24-27

crack propagation at 20°C, and shifts the threshold of brittleness of the base metal into the lower temperature area. The tests showed that the decrease in impact toughness of the base metal upon transition to the brittle state is a result of a decrease in the work of crack propagation in correspondence with a decrease in the fibrous component in the fracture of the impact test specimens. The resistance of the seam zone to brittle rupture of the steel studied increases with decreasing cooling rate. In order to provide the highest resistance to brittle rupture of welded seams of low-alloy steel, welding modes should be selected so that the work expended on crack propagation is no lower, while the threshold of cold brittleness is no higher than the corresponding values of the base metal.

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USSR UDC 621.791.052.011:669.15-194.:2+669.786+669.292

MATSNEV, E. P., Engineer, ASTAF'YEV, A. S., Candidate of Technical Sciences, STRUKOVA, N. S., Engineer (Central Scientific Research Institute for Ferrous Metallurgy imeni I. P. Bardin), CHECHEKIN, YU. F., Engineer (Plant imeni Lenin), and NABATOVA, K. A., Candidate of Technical Sciences (Central Scientific Research Automobile and Auto Engine Institute)

"Properties of Welded Joints of Commercial 12G2 Steel Alloyed With Nitrogen and Vanadium"

Moscow, Svarochnoye Proizvodstvo, No 11, Nov 70, pp 27-29

Abstract: Results are presented from a study of the properties of welded joints made under conditions similar to those used for side members of motor vehicle frames from a 100-ton commercial melt of steel produced in an open hearth furnace at the Chelyabinsk Metallurgical Plant. The chemical composition of the metal was: 0.13% C, 1.19% Mn, 0.12% Cr, 0.10% Ni, 0.12% V, 0.02% N, 0.09% Cu, 0.018% S, 0.008% P. Welded joints produced

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MATSNEV, E. P., et al., Svarochnoye Proizvodstvo, No 11, Nov 70, pp 27-29

in the sheet steel by manual arc welding were equal in strength to the base metal. The fatigue strength of the welded joints was 15-20% higher than the fatigue strength of welded joints in 30T steel.

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1/2 038 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--IMPACT TOUGHNESS TESTING OF STEEL -U-

AUTHOR-(02)-ASTAFYEV, A.S., GULYAYEV, A.P.

COUNTRY OF INFO--USSR

SOURCE--FIZ.-KHIM. MEKH. MATER. 1970, 6(1), 76-9

DATE PUBLISHED-------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--IMPACT STRENGTH, TOUGHNESS, ALLOY DESIGNATION, LOW ALLOY STEEL, METAL CRACKING, CRACK PROPAGATION, NUCLEATION, METAL BRITTLENESS, COLD SHORT, BRITTLE FRACTURE, MATERIAL FRACTURE/(U)18KHG2AYU LOW ALLOY STEEL, (U)18G2AYU LOW ALLOY STEEL, (U)15G2S LOW ALLOY STEEL, (U)15KSND LOW ALLOY STEEL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3001/0330 STEP NO--UR/0369/70/006/001/0076/0079

CIRC ACCESSION NO--AP0126086

UNCLASSIFIED

2/2 038 UNCLASSIFIED PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0126086

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. RESISTANCE OF STEEL TO BRITTLE FRACTURE IS GENERALLY DESCRIBED BY THE COLD SHORTNESS THRESHOLD AND THE IMPACT TOUGHNESS VALUE (ALPHA SUBT) THAT IS COMPOSED OF THE WORK REQUIRED FOR CRACK NUCLEATION (ALPHA SUBN) AND CRACK GROWTH (ALPHA SUBG). SOME OF THE PROBLEMS CONCERNING THE IMPACT TOUGHNESS TESTING OF STEEL WERE INVESTIGATED. THE MATERIAL USED WAS LOW ALLOYED HOT ROLLED AND NORMALIZED STEELS 15KSND, 15G2C, 18G2AYU, AND 18KHG2AYU. BETWEEN ALPHA SUBT AND THE NOTCH RADIUS (R) THERE IS A LINEAR RELATION WHEN R EQUALS 0.1-1.0 MM. WITHIN THE TEMP. INTERVAL CORRESPONDING TO THE COLD SHORTNESS THRESHOLD, ALPHA SUBN SHOWS PRACTICALLY NO CHANGE WHILE ALPHA SUBG DECREASES ALMOST TO ZERO. CHANGE OF ALPHA SUBG DEPENDS UPON THE PER CENT OF THE DUCTILE COMPONENTS (FIBER) IN THE FRACTURE (PERCENT F) AND IS RELATED TO THE LATTER BY A SIMPLE CORRELATION PERCENT ALPHA SUBG EQUALS PERCENT F. R DOES NOT AFFECT THE POSITION OF THE COLD SHORTNESS THRESHOLD AND PERCENT F IN THE FRACTURE. DECREASING THE CROSS SECTION OF THE IMPACT TEST SPECIMEN DECREASES THE COLD SHORTNESS THRESHOLD, INCREASES ALPHA SUBN, AND DECREASES ALPHA SUBG. FACILITY: TSNII CHERN. MET. IM. BARDINA, MOSCOW, USSR.

UNCLASSIFIED

ASTAF'YEV, G. N.

MEDICINE

SO: MILITARY MEDICAL JOURNAL #10 OCT 70 MOSCOW

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J-9147

SCIENTIFIC CONFERENCE OF MILITARY SANATORIUM PHYSICIANS

(I. I. Fokin and G. N. Astaf'yev)

A scientific conference of physicians from Pyatigorsk and Yessentuki sanatoriums of the USSR Ministry of Defense convened in Pyatigorsk in April 1970, and was dedicated to the 100th anniversary of the birthday of V. I. Lenin. Among its participants were medical service lieutenant general N. S. Molchanov, chief therapist of the USSR Ministry of Defense, and physicians from the Kislovodsk sanatorium of the Ministry of Defense and from the Pyatigorsk resort council. Issues pertaining to sanatorium and resort therapy for patients suffering from pathology of the digestive, endocrine and cardiovascular system were discussed. 5609 386

In his opening remarks, medical service colonel I. M. Pavlik remarked that the team of Pyatigorsk Sanatorium, for their achievements in the socialist competition, in therapeutic and diagnostic and administrative work, were awarded in 1969, the title of Team of Communist Labor, and the sanatorium has been entered on the regional honor roll.

Medical service colonel E. A. Gavrilov delivered a paper on "V. I. Lenin and Soviet Health Care."

Lieutenant general of the medical service N. S. Molchanov told about the principles in evaluating the results of studies of acid producing function of the stomach using radiotelemetry, and gave several recommendations for better organization of patient treatment at balneological resorts.

Medical service colonel G. N. Astaf'yev report the results of a study of dynamics of gastric peristalsis using electrogastrography on patients suffering from chronic gastritis during treatment with the mineral waters of Yessentuki No 17 and No 3. It was established that both after single ingestion of mineral water and after a whole course of therapy more than half the patients showed a change in their electrogastrograms in the direction of normalization. Electrogastrography in conjunction with other examination methods helps in making an objective evaluation of the effectiveness of sanatorium and resort therapy for patients with chronic gastritis.

Medical service colonel I. I. Fokin, medical service major K. M. Mel'nik, Ye. G. Snyko, L. N. Pisarenko, and P. T. Chumakov, in a paper entitled "Diagnosis and Complex Sanatorium Therapy for Patients with Chronic Pancreatitis," summarized the findings from a study of external and internal secretion of the pancreas, described the method of palpating the pancreas according to Grott, and reported on an exhaustive study of the pain syndrome. They made extensive use of quantitative assays of enzymes in the duodenal contents with concurrent studies of diastase and glycemic curves with a double glucose load. Differentiated complex sanatorium treatment was prescribed in accordance with examination results. It included medical protective regimen, diet, ingestion of mineral water, mineral baths, mud treatment, diadynamotherapy, intestinal procedures and, in some cases, drug therapy. Observations revealed that in order to prevent exacerbation of chronic pancreatitis mineral baths should be prescribed at a temperature of no higher

USSR

ASTAF'YEV, N. N.

"Method of Linearization in Convex Programming"

Mat. Metody v Nekotor. Zadachakh Optimal'n. Planir. Vyp 3 [Mathematical Methods in Certain Problems of Optimal Planning, No 3 -- Collection of Works], Sverdlovsk, 1971, pp 3-18 (Translated from Referativnyy Zhurnal, Kibernetika, No 2, 1972, Abstract No 2 V552 from the Introduction).

Translation: One method of analysis of problems of convex programming is based on the idea of linearization of the initial nonlinear problem. The expediency of this approach is dictated by the development of the theory of extreme problems with linear limitations, which is used as the mathematical apparatus for the analysis of nonlinear problems. Furthermore, study of problems of mathematical programming from the standpoint of linearization allows us to retain the most important facts of linear programming within the framework of this theory. In this work, problems of duality in convex programming are analyzed from this standpoint, conditions of compatability of infinite systems of convex inequalities are formulated.

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USSR UDC: 512.25/.26+519.3:330.115

ASTAF'YEV, N. N., YEREMIN, I. I.

"Duality in Complex Programming"

Metody upr. bol'shimi sistemami. T. 1 (Methods of Controlling Large Systems. Vol. 1), Irkutsk, 1970, pp 25-49 (from RZh-Kibernetika, No 9, Sep 71, Abstract No 9V489)

Translation: A survey article. Section 1 describes two schemes for constructing dual problems: a) with the use of linearization followed by a transition to the dual problem; b) based on representing the problem in an equivalent form through a Lagrange function followed by a change in the order of carrying out the operations inf sup. Section 2 presents various conditions of regularity and the results on solvability and optimality (of the Coon-Tucker type). Section 3 contains various formulations of theorems of duality. Also analyzed are problems of symmetry and self-adjointness in the theory of duality (section 4), quasiconvex and pseudoconvex problems (section 5) and some problems of localized duality. Bibliography of 28 titles. S. Lebedev.

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USSR

UDC 621.382.322:621.317.799

ASTAF'YEV, V.G., VALITOV, R.A.

"Measurement Of The Noise Coefficient Of Field-Effect Transistors In Decimator Wave Band"

Dokl. nauchno-tekhn. konferentsii po radiotekhn. izmereniyam. T. 2 (Proceedings Of The Scientific-Technical Conference On Radio Engineering Measurements. Vol. 2), Novosibirsk, 1970, pp 13-14 (from RZh--Elektronika i yeye primeneniye, No 2, February 1971, Abstract No 2B520)

Translation: The paper considers errors of measurement of the noise coefficient of field-effect transistors, connected with the necessity of matching the input of the transistor with the measuring channel and resulting from the presence of losses in the matching transformer, and also the commensurability of the matching band with the band of the measurer of the noise coefficient with a large transformation ratio. The results of measurement are also presented, which show that for a decrease of errors in the decimator band up to 4 percent, it is necessary that the band of the measurer not exceed 0.5 MHz. 1 ref. N.S.

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USSR UDC: 621.317.001

ASTAF'YEV, Yu. G., VALITOV, R. L.

"Noise Parameters of a Quadripole"

Dokl. Vses. nauchno-tekhn. konferentsii po radiotekhn. izmereniyam. T. 2 (Reports of the All-Union Scientific and Technical Conference on Radio Engineering Measurements. Vol. 2), Novosibirsk, 1970, pp 10-12 (from RZh-Radiotekhnika, No 12, Dec 70, Abstract No 12A310)

Translation: It is shown that the noise coefficient of any quadripole may be defined in terms of the noise parameters and the coefficient of reflection. All noise parameters may be determined from an experiment with a movable shorting device connected to the input of a matching transformer; the measurement sequence is given. Two illustrations, bibliography of three titles. E. L.

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1/2 008 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--REACTION OF METALLIC DERIVATIVES OF COMPOUNDS HAVING A LABILE HYDROGEN ATOM WITH ALPHA HALO KETONES. XVIII. REACTION OF

AUTHOR-(03)-TEMNIKOVA, T.I., ASTAFYEVA, A.YE., SEMENOVA, S.N.

COUNTRY OF INFO--USSR

SOURCE--ZH. ORG. KHIM. 1970, 6(4), 736-9

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--HALOGENATED ORGANIC COMPOUND, ORGANOSODIUM COMPOUND, ACETATE, FURAN, CARBOXYLIC ACID, BENZENE DERIVATIVE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/1952 STEP NO--UR/0366/70/006/004/0736/0739

CIRC ACCESSION NO--AP0125541

UNCLASSIFIED

2/2 008 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0125541

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE REACTION OF PHCO, CHCLPH WITH MECOCHNACO SUB2 ET GAVE PHCOCHPHCHACCO SUB2, ET, WHICH WAS CYCLIZED IN REFLUXING 20PERCENT H SUB2 SO SUB4 TO 3,CARBETHOXY, 4,5,DIPHENYL,2,METHYLFURAN (I). THE HYDROLYSIS OF I GAVE 4,5, DIPHENYL,2,METHYLFURAN,3,CARBOXYLIC ACID. ANALOGOUSLY, STARTING WITH MEC SUB6 H SUB4 COCHCLPH, 5,TOLYL ANALOG OF I AND THE CORRESPONDING ACID WERE PREPD.

UNCLASSIFIED

1/2 019 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--DETERMINING OPTICAL CONSTANTS OF SUBSTANCE OF DISPERSIVE PARTICLES -U-

AUTHOR-(03)-NAUMENKO, YE.K., PRISHIVALKO, A.P., ASTAFYEVA, L.G.

COUNTRY OF INFO--USSR

SOURCE--ZH. PRIKLAD. SPEKTROSK. (USSR), VOL. 12, NO. 1, P. 121-5 (JAN. 1970)

DATE PUBLISHED-------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--REFRACTIVE INDEX, ABSORPTION COEFFICIENT, PARTICLE SCATTER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1998/1800 STEP NO--UR/0368/70/012/001/0121/0125

CIRC ACCESSION NO--AP0122130

UNCLASSIFIED

2/2 019 UNCLASSIFIED PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0122130

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PROPOSES A METHOD OF CALCULATING THE REFRACTIVE INDEX AND THE ABSORPTION COEFFICIENTS OF THE SUBSTANCE OF DISPERSIVE PARTICLES BASED ON MEASURED COEFFICIENTS OF ABOSRPTION AND OF SCATTER OF AN INDIVIDUAL PARTICLE. LIMITS OF APPLICABILITY OF THE METHOD ARE DEFINED, AND PROBLEMS CONCERNING THE ACCURACY OF OBTAINED RESULTS ARE ANALYSED IN DETAIL.

UNCLASSIFIED

USSR

FADDEYEVA, M. I., BASKAKOV, YU. A., BOBYLEVA, S. S., ASTAF'YEVA, L. S.,

"Synthetic Method for Hydantoin Derivatives"

USSR Author's Certificate No 364611, filed 22 Jun 70, published 27 Feb 73 (from RZh-Khimiya, No 19, Oct 73, Abstract No 19N582P)

Translation: Hydantoin derivatives (I) of the series RNCON(R')COCXR" (R,R',R" = acryl or alkyl; X = S or O) are obtained by the reaction of respective 6-Cl-I with the R"XH type compound in presence of HCl (gas) acceptor. 2.59 g of 1,3'-ClC_6H_4-3-Me-5Cl-I dissolved in 50 ml alcohol is refluxed for 7-8 hrs and evaporated yielding 2.62 g II (R = 3'ClC_6H_4, R' = Me, R" = Et, X = O), m.p. 63-65° (petr. ether). Analogously II are obtained (R, R', R", X, yield in %, m.p. in °C being reported): Ph, Me, Me, O, 97.8, 58-60 (petr, ether); Ph, Me, Et, O, 96.8, 98-100 (petr. ether); Ph, Me, m-ClC_6H_4, O, 82.1, 120-2 (alc); Ph, Me, o-ClC_6H_4, O, 80, 136 (benz. petr. ether); Ph, Me, 2,4',6'-$Cl_3C_6H_2$, O, 75, 127-9; Ph, Me, iso-Pro, S, 119-120.

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USSR UDC 535.37

ASTAF'YEVA, L. V., GAVRILOV, P. F., and DVILYANSKIY, B. L.

"Luminescence Stability of LiH-Bi Crystals"

Tomsk, Izvestiya VUZ--Fizika, No. 10, 1971, pp 117-119

Abstract: This short communication presents the results of experiments regarding the luminescence of LiH-Bi crystals under large and small dosages of irradiation with light of wavelength 365 nm. The large dosages amounted to 10^8 lux·sec and the small to 10^5 lux sec. Supplied from one of the lines of a mercury arc spectrum, the light was obtained through the use of spectrophotometer SF-4. It was established, from preliminary experiments, that the 365-nm line stimulated the greatest changes in luminescences from these crystals. Curves are given showing the change of luminescence intensity with time and its subsequent persistence in darkness, and the effect of large dosages together with annealing at a temperature of 300° C over periods of varying length. These curves show that photochemical processes of the type that occur in lithium hydride under the action of light may lead to destruction of the glow centers. The authors are associated with the Ural Polytechnical Institute imeni S. M. Kirov.

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Acc. Nr: AP0051909 Ref. Code: UR0219

PRIMARY SOURCE: Byulleten' Eksperimental'noy Biologii i Meditsiny, 1970, Vol 69, Nr 2, pp 32-35

PARTICIPATION OF THE POSTERIOR NUCLEI OF THE HYPOTHALAMUS IN THE MECHANISM OF DEVELOPMENT OF EXPERIMENTAL ALLERGIC ENCEPHALOMYELITIS AND OF POSTDIPHTERITIC POLYNEURITIS

V. V. Mikhaylov, N. G. Astaf'eva, V. Ya Sologub'eva

Saratov Medical Institute

In the guinea pigs subjected to sublethal doses of diphtheritic toxin or immunized by encephalitogenic mixtures, the development of paralysis of the skeletal muscles was preceded by changes in the functional activity of the hypothalamo-hypophyseal-adrenal system manifested by disturbances in osmotic reflexes and by accumulation of antinerve antibodies in the blood. During electrolytic destruction or pharmacological switching-off by sympatholytic agents, the posterior nuclei of the hypothalamus of the animals retained adequate osmotic reflex to water loading while synthesis of antinerve antibodies markedly decreased. At this background during diphteritis and experimental allergic encephalomyelitis, the guinea pigs developed paralysis of the skeletal muscles 4—5 days later and these animals survived 6—7 days over the control.

REEL/FRAME
19820392

Acc. Nr: AP0037238 A Ref. Code: UR 0301

PRIMARY SOURCE: Voprosy Meditsinskoy Khimii, 1970, Vol 16, Nr 1, pp 46-51

FUNCTIONAL SIGNIFICANCE OF LOCALIZATION OF CHANGES IN KATECHOLAMINES IN CENTRAL NERVOUS SYSTEM AT POSTDIPHTHERITIC POLYNEURITIS AND AT EXPERIMENTAL ALLERGIC ENCEPHALOMYELITIS

Mikhaylov, V. V.; Astaf'yeva, N. G.

A. A. Bogomoletz Chair of Pathological Physiology, Medical Institute, Saratov

Authors studied katecholamines content in different tissues of guinea-pigs poisoned with sublethal doses of diphtheric toxin or immunizated with encephalytogenic mixture. It was noted that during the pre-paralytic period of postdiphtheritic polyneuritis and experimental allergic encephalomyelitis development the accumulation of katecholamines in hypothalamus and in those tissues where allergic inflammation occurs (spinal brain, sciatic nerves) took place. In other tissues (brain cortex, kidney, muscles) the katecholamines content was not changed. Sympatholytics administration (aminazine or reserpine) prevents the accumulation of mediators in nervous tissue and inhibits the development of paralysis in animals poisoned with sublethal doses of diphtheric toxin or immunizated with encephalytogenic mixture.

Dn.

1/1 2

REEL/FRAME
19730163

1/2 022 UNCLASSIFIED PROCESSING DATE--02OCT70
TITLE--COMPLEXING IN A TITANIUM(IV),2,4,DIHYDROXYBENZOIC ACID SYSTEM -U-

AUTHOR-(04)-ASTAKHOV, A.I., KNYAZEVA, YE.N., BLEYKHER, YA.I., SHNAYDERMAN, S.YA.

COUNTRY OF INFO--USSR

SOURCE--ZH. OBSHCH. KHIM. 1970, 40(2), 347-52

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--SPECTROPHOTOMETRIC ANALYSIS, HYDROXIDE, BENZENE DERIVATIVE, CHEMICAL STABILITY, ORGANOTITANIUM COMPOUND, ORGANIC COMPLEX COMPOUND, METAL COMPLEX COMPOUND, TITANIUM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1993/0200 STEP NO--UR/0079/70/040/002/0347/0352

CIRC ACCESSION NO--AP0113139
UNCLASSIFIED

2/2 022 UNCLASSIFIED PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0113139

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SPECTROPHOTOMETRIC DATA ARE PRESENTED FOR THE SYSTEM OF TI(IV) WITH 2,4,DIHYDROXYBENZOIC ACID (H SUB3 R). THE COLORED COMPLEX FORMS BEST AT PH 3-6, THE PRODUCT HAVING A STRONG ABSORPTION BAND AT 355 M MU. THIS APPEARS TO BE THE MA SUB2 TYPE OF COMPLEX. AT PH SMALLER THAN 3.3, THE REACTION IS: TIO PRIME2 PLUS 2H SUB3 R IN EQUILIBRIUM TIO(H SUB2 R) SUB2 PLUS 2H PRIME POSITIVE, WHILE AT PH 3.3-6.5 IT IS: TIO PRIME2 POSITIVE PLUS 2H SUB2 R PRIME NEGATIVE IN EQUILIBRIUM TIO(H SUB2 R) SUB2. THE MEAN VALUE OF THE INSTABILITY CONST. OF THE COMPLEX WAS CALCD. AS 5.93 TIMES 10 PRIME NEGATIVE7.

UNCLASSIFIED

USSR

MARSHAK, YU. I., ASTAKHOV, B. S.

"Electric Discharge Unit for Simulating Long Plane Waves by the Method of Dynamic Photoelasticity"

Sb. tr. Mosk. inzh.-stroit. in-t (Collected Works of the Moscow Construction Engineering Institute), 1970, No 73, pp 45-52 (from RZh-Mekhanika, No 11, Nov 70, Abstract No 11V923)

Translation: This article contains a description of the procedure for obtaining long plane waves for investigating the seismic effect in hydroengineering structures by the method of photoelasticity. Considering the dimensions of the models, the wavelength should be 100-200 mm. In order to create long plane waves the discharge energy of powerful capacitors was used. The description and sketch of the block diagram of the device for generating and recording plane waves are presented. The conclusion is drawn that satisfactory results are given by the method of explosive foil with direct contact with the model and loading of the model under a pulsed magnetic field with cutoff

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USSR

MARSHAK, YU. I., et al, Sb. tr. Mosk. inzh.-stroit. in-t, 1970, No 73, pp 45-52

of subsequent electrical oscillations. The experiments were performed with copper, iron and nickel foil. With identical parameters of the discharge circuit, the iron and nickel created a longer pressure pulse with a flat top on explosion. On exploding iron foil the magnitude of the pressure in the models at a distance of 100-300 mm from the explosive foil was 180-240 kg/cm^2, and the duration of the compression phase was within the limits of 70-300 microseconds. With a length of the explosive foil of 150 mm, the length of the plane front in the model was 120-130 mm. The procedure was used to study the stresses caused by the seismic effect in a model of a massive concrete dam. The bibliography has 14 entries.

2/2

USSR

UDC 621.771.25.001.5

ASTAKHOV, I. G., and LEBEDEV, L. S.

"A Method for Investigating the Process of High-Speed Rolling"

Plasticheskaya Deformatsiya Metallov i Splavov, Moscow, No 64, "Metallurgiya," 1970, pp 274-278

Translation: A description is given of a new high-speed rolling mill, with a maximum speed up to 60 meters a second, which has been installed at the Moscow Institute of Steel and Alloys. A technique has been developed for measuring the power and speed parameters of the process. The first experiments to test the method have been conducted. Two figures.

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1/2 031 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--FORMATION OF SOLID SOLUTIONS DURING THE CATHODIC ADDITION OF SODIUM INTO LEAD -U-

AUTHOR-(02)-TEPLITSKAYA, G.L., ASTAKHOV, I.I.

COUNTRY OF INFO--USSR

SOURCE--ELEKTROKHIMIYA 1970, 6(3), 379-81

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY, MATERIALS, PHYSICS

TOPIC TAGS--SOLID SOLUTION, LEAD, SODIUM, CRYSTAL LATTICE STRUCTURE, X RAY ANALYSIS, PHYSICAL DIFFUSION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1998/1139 STEP NO--UR/0364/70/006/003/0379/0381

CIRC ACCESSION NO--AP0121698

UNCLASSIFIED

2/2 031 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0121698

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. NA WAS ADDED AT 25DEGREES BY POLARIZATION IN 1ON NAOH TO A PB FOIL CATHODE OF 99.999PERCENT PURITY AND 25 MU THICKNESS. AFTER WASHING OFF THE ALKALI, THE LATTICE PARAMETER WAS MEASURED BY AN X RAY SCANNING METHOD. THE CONCN. OF NA IN A SURFACE LAYER OF THICKNESS SMALLER THAN OR EQUAL TO 3.5 MU WAS OBTAINED. THE CONCN. OF NA CHANGED WITH POTENTIAL AND TIME OF POLARIZATION AND REACHED A LIMITING VALUE OF 3 ATOM. PERCENT AT MINUS 1.8 V IN 18-20 HR. THE CORRESPONDING DECREASE IN THE LATTICE PARAMETER OF PB WAS 0.0013 PLUS OR MINUS 0.0002 ANGSTROM. DIFFUSION OCCURS IN THE CRYSTAL GRAINS AND NOT ALONG GRAIN BOUNDARIES. THE DIFFUSION COEFF. OF NA CALCD. FROM THE ABOVE DATA IS SIMILAR TO 1O NEGATIVE PRIME12 CM PRIME2-SEC WHICH ALMOST EQUALS THE SELF DIFFUSION COEFF. IN PB ALONG GRAIN BOUNDARIES AND EXCEEDS BY 7 ORDERS OF MAGNITUDE THE BULK SELF DIFFUSION COEFF. IT IS SUGGESTED THAT THE HIGH MOBILITY OF NA IN PB IS DUE TO ATTRACTIVE FORCES BETWEEN NA ATOMS AND VACANCIES IN THE PB LATTICE RESULTING IN THE FORMATION OF COMPLEXES. A SOLID SOLN. REACHING SATN. AT 3 ATOM PERCENT NA, IS FORMED IN THE CRYSTAL GRAINS.

FACILITY: INST. ELEKTROKHIM., MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 541.9

ASTAKHOV, Prof. K. V.

"D. I. Mendeleev's Periodic Law of Elements in the Light of Present-Day Scientific Knowledge"

Moscow, Zhurnal Vsesoyuznogo Khimicheskogo Obshchestva imeni D. I. Mendeleyeva, Vol 16, No 3, 1971, pp 251-260

Abstract: Discovery by D. I. Mendeleev of the periodic law of elements opened up a new stage in the development of chemistry. Inorganic chemistry is an illustration of this law. Furthermore, the periodic law of elements served as a guideline for nuclear physics, making possible the synthesis of 13 man-made elements that do not occur in the earth crust. The significance of Mendeleev's discovery from this standpoint has received world-wide recognition, as indicated by the fact that the element with Z = 101, the isotopes of which were prepared for the first time by Seaborg et al in the USA, has been named mendelevium. There are reasons to believe that the periodic law is a universal law of nature and that it also applies to elementary particles.

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USSR UDC 541.49

KRUMINA, V. T., ASTAKHOV, K. V., and BARKOV, S. A., Order of Labor Red Banner State Pedagogic Institute imeni V. I. Lenin, Moscow, Ministry of Education RSFSR

"Complex Compounds of Titanium-IV and Vanadium-III with Diethylene-triaminepentaacetic Acid"

Moscow, Zhurnal Fizicheskoy Khimii, Vol 44, No 7, Jul 70, pp 1609-1613

Abstract: Formation of complexes of Ti^{4+} and V^{3+} with diethylene-triaminepentaacetic acid (H_5P) in aqueous solutions was studied by the spectrophotometric method. Only complexes with a 1:1 molar ratio of the two components (metal ion and H_5P) were formed. The following complexes formed in the pH ranges indicated: $TiHP$ (pH 1.3-1.7), TiP^- (pH 1.7-2.0), $VP^=$ (pH 0.4-0.9). The negative logarithms of the acidolysis and dissociation constants of the three complexes were calculated.

1/2 013 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--SPECTROPHOTOMETRIC STUDY OF THE COMPLEXING OF NICKEL(II) WITH TRIAMINOTRIETHYLAMINE -U-

AUTHOR-(02)-MYLNIKOVA, V.M., ASTAKHOV, K.V.

COUNTRY OF INFO--USSR

SOURCE--ZH. FIZ. KHIM. 1970, 44(2), 512-14

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--SPECTROPHOTOMETRIC ANALYSIS, NICKEL COMPLEX, ORGANONICKEL COMPOUND, ORGANIC COMPLEX COMPOUND, AMINE DERIVATIVE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/2171 STEP NO--UR/0076/70/044/002/0512/0514

CIRC ACCESSION NO--AP0125751

UNCLASSIFIED

2/2 013 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0125751

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE COMPLEX FORMATION IN THE SYSTEM NICL SUB2 TRIAMINOTRIETHYLAMINE (TREN) WAS STUDIED PHOTOMETRICALLY IN THE PH RANGE 2-10 AT 560 AND 940 NM. AT PH 4.7 A COMPLEX IS FORMED WITH AN OPTIMAL PH RANGE OF 5.9-8.4 FOR ITS FORMATION. THE ISOMOLAR SERIES METHOD GIVES 1:1 COMPN. OF THE COMPLEX IN THAT RANGE. AT HIGHER PH VALUES THE ABSORBANCE DECREASES AS A RESULT OF HYDROXOCOMPLEXES. THE COMPLEX FORMATION IS ASSUMED TO PROCEED ACCORDING TO: NI PRIME2 POSITIVE PLUS (TRENH SUB3) PRIME3 POSITIVE EQUALS NI(TRENH) PRIME3 POSITIVE PLUS 2H PRIME POSITIVE (PH EQUALS 4.9-5.4) WITH INSTABILITY CONST. K EQUALS 1.4 TIMES 10 PRIME NEGATIVE10 AND NI PRIME2 POSITIVE PLUS (TRENH SUB3) PRIME3 POSITIVE EQUALS NI(TREN) PRIME2 POSITIVE PLUS 3H PRIME POSITIVE (PH EQUALS 5.4-5.8) WITH K EQUALS 1.56 TIMES 10 PRIME NEGATIVE15. FACILITY: MOSK. GOS. PEDAGOG. INST. IM. LENINA, MOSCOW, USSR.

UNCLASSIFIED

1/2 015 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--SPECTROPHOTOMETRIC STUDY OF THE COMPLEXING OF NICKEL II WITH TRIMETHYLENEDIAMINE -U-
AUTHOR-(02)-MYLNIKOVA, V.M., ASTAKHOV, K.V.

COUNTRY OF INFO--USSR

SOURCE--Zh. FIZ. KHIM. 1970, 44(4), 1084-6

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--SPECTROPHOTOMETRIC ANALYSIS, NICKEL COMPLEX, DIAMINE, IONIC BONDING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3002/1165 STEP NO--UR/0076/70/044/004/1084/1086

CIRC ACCESSION NO--AP0128587
UNCLASSIFIED

2/2 015 UNCLASSIFIED PROCESSING DATE--20NOV70
CIRC ACCESSION NO--AP0128587
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SPECTROPHOTOMETRIC INVESTIGATION OF 0.01 M NICL SUB2 AND 0.084 M TRIMETHYLENEDIAMINE (A) SOLNS. INDICATES FORMATION OF COMPLEXES NIA PRIME2 POSITIVE AT PH 7.007.6, NIA SUB2 H SUB3 POSITIVE AT PH 8.2-8.5, NIA SUB2 PRIME2 POSITIVE AT PH 8.5-8.9, AND NIA SUB3 PRIME2 POSITIVE AT PH LARGER THAN 10.8. FROM MEASUREMENT AT 20 PLUS OR MINUS 2DEGREES IN SOLNS. WITH IONIC STRENGTH 0.1 (KCL), THE EQUIL. CONSTS. FOR THE FOLLOWING REACTIONS WERE CALCD.: NI PRIME2 POSITIVE PLUS AH SUB2 PRIME2 POSITIVE EQUALS NIA PRIME2 POSITIVE PLUS 2H PRIME POSITIVE, K EQUALS 4.07 TIMES 10 PRIME NEGATIVE14; NIA PRIME2 POSITIVE PLUS AH SUB2 PRIME2 POSITIVE EQUALS NIA SUB2 H SUB3 POSITIVE PLUS H PRIME POSITIVE, K EQUALS 1.05 TIMES 10 PRIME NEGATIVE7; AND NIA PRIME2 POSITIVE PLUS AH SUB2 PRIME2 POSITIVE PLUS 2H PRIME POSITIVE, K EQUALS 3.98 TIMES 10 PRIME NEGATIVE16. FACILITY: MOSK. GOS. PEDAGOG. INST. IM. LENINA, MOSCOW, USSR.

UNCLASSIFIED

1/2 015 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--SPECTROPHOTOMETRIC STUDY OF NICKEL AMMONIA COMPLEXES -U-

AUTHOR-(03)-MYLNIKOVA, V.M., ASTAKHOV, K.V., BARKOV, S.A.

COUNTRY OF INFO--USSR

SOURCE--ZH. FIZ. KHIM. 1970, 44(3), 560-3

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--SPECTROPHOTOMETRIC ANALYSIS, NICKEL COMPLEX, AMMONIA, SPECTROPHOTOMETER/(U)SF4A SPECTROPHOTOMETER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3002/1195 STEP NO--UR/0076/70/044/003/0560/0563

CIRC ACCESSION NO--AP0128613

UNCLASSIFIED

2/2 015 UNCLASSIFIED PROCESSING DATE--20NOV70
CIRC ACCESSION NO--AP0128613
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SPECTROPHOTOMETRIC METHOD IS USED TO STUDY THE FORMATION OF NI,NH SUB3 COMPLEXES IN AQ. SOLN. THE COMPLEXING PROCESS PROCEEDS STEPWISE. THE ABSORBANCE OF THE SOLNS. WAS DETD. ON SF,4A SPECTROPHOTOMETER AT 500-730 NM. THE COMPNS. OF THE COMPLEXES FORMED AND THE 1ST 3 INSTABILITY CONSTS. WERE DETD. THE PK SUB1, PK SUB2, AND PK SUB3 VALUES FOR NINH SUB3 PRIME2 POSITIVE WERE 2.993 PLUS OR MINUS 0.136, 2.14, AND 1.60, RESP. FACILITY: MOSK. GOROD. PEDAGOG. INST.IM. LENINA, MOSCOW, USSR.

UNCLASSIFIED

1/2 009 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--COMPLEXING OF COPPER,II, WITH EDTA -U-

AUTHOR-(03)-KORNEV, V.I., ASTAKHOV, K.V., RYBINA, V.I.

COUNTRY OF INFO--USSR

SOURCE--ZH. FIZ. KHIM. 1970, 44(5), 1311-13

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--COPPER COMPLEX, ETHYLENEDIAMINE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3008/0885 STEP NO--UR/0070/70/044/005/1311/1313

CIRC ACCESSION NO--AP0137913

UNCLASSIFIED

2/2 009 UNCLASSIFIED PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0137913

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A 1:1 COMPLEX OF CU PRIME2 POSITIVE WITH EDTA (H SUB4 A) IS FORMED. DEPENDING UPON THE PH, THIS COMPLEX EXISTS IN THE FORMS: CUH SUB3 A PRIME POSITIVE, CUH SUB2 A, CUHA PRIME NEGATIVE, OR CUA PRIME2 NEGATIVE. THE PH INTERVAL OF EACH FORM OF THE COMPLEX IS ESTABLISHED AND ITS INSTABILITY CONST. IS DETD. FACILITY: MOSK. GOS. PEDAGOG. INST. IM. LENINA, MOSCOW, USSR.

UNCLASSIFIED

1/2 010 UNCLASSIFIED PROCESSING DATE--18SEP70

TITLE--COMPLEXING OF PRASEODYMIUM WITH DIETHYLENETRIAMINEPENTAACETIC ACID -U-

AUTHOR-(03)-KRUMINA, V.T., ASTAKHOV, K.V., BARKOV, S.A.

COUNTRY OF INFO--USSR

SOURCE--ZH. FIZ. KHIM. 1970, 44(2), 422-5

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--PRASEODYMIUM COMPOUND, COMPLEX COMPOUND, ACETIC ACID, SPECTROPHOTOMETRIC ANALYSIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1987/0325 STEP NO--UR/0076/70/044/002/0422/0426

CIRC ACCESSION NO--AP0103980

UNCLASSIFIED

2/2 010 UNCLASSIFIED PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0103980

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE COMPLEX FORMATION OF PR PRIME3 PLUS WITH H SUB5 L (DIETHYLENETRIAMINEPENTAACETIC ACID) IN AQ. SOLNS. IS STUDIED BY SPECTROPHOTOMETRIC METHODS. TWO COMPLEXES ARE FORMED: PRL PRIME2 NEGATIVE AT PH OF 2.2 AND PR SUB2 L PLUS AT PH GREATER THAN 6. THE INSTABILITY CONSTS. OF THE COMPLEXES WERE DETD.; THE PK SUBH ARE 21.79-22.27 AND 27.89-27.92, RESP.

UNCLASSIFIED

USSR UDC 546.561'23/24:537.311.33+537.323

ASTAKHOV, O. P., and LOBANKOV, V. V.

"Electrical Properties of Copper Sulphotellurides"

Moscow, Neorganicheskiye Materialy, Vol 9, No 12, 1973, pp 2082-2084

Abstract: Alloys of the form $Cu_2Te_xS_{1-x}$ were synthesized and their properties studied. X-Ray analysis showed that for $x > 0.5$ the alloy was a solid solution based on Cu_2Te. Plots of the electrical conductivity σ and the coefficient of the thermal electromotive force α against temperature in the range 700-1500°K both show significant changes in slope around 1200°K for alloys having $x = .25$, $x = .50$, and $x = .75$. For the alloy $x = .75$, the Hall coefficient decreases monotonically with an increase in temperature from 4.5×10^{-3} to 2.0×10^{-3} cm^3. This change may be related to the increase in defects due to disordering. Plots of concentration dependence of the coefficient of thermal emf and conductivity against mole % Cu_2Te at three temperatures -- 950°K, 1100°K, and 1460°K -- showed a general decrease for α and an increase for σ with increasing Cu_2Te.

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USSR UDC 66.071.71

ASTAKHOV, V. A., DUBININ, M. M., MASHAROVA, L. P., and ROMANKOV, P. G., Belorussian Technological Institute imeni S. M. Kirova, Institute of Physical Chemistry, Academy of Sciences SSSR, and Leningrad Technological Institute imeni Lensoveta

"Calculation of the adsorption Equilibrium on Chemically and Structurally Different Adsorbents"

Moscow, Teoreticheskiye Osnovy Khimicheskoy Tekhnologii , Vol 6, No 3, 1972, pp 373-379

Abstract: A statistical method is discussed for the analysis of adsorption isotherms relative to choosing the most accurate distribution function for engineering calculations. Equations for the Poisson, Gaussian, and the Veibul [transliterated] distrubution curves are given [eqs. 1, 2, and 3 respectively] and the mathematical implications of each considered. The veibul equations seem to be the simpliest, the most general and the most amenable to engineering applications.

USSR

ASTAKHOV, V. A., et al., Teoreticheskiye Osnovy Khimicheskoy Tekhnologii, Vol 6, No 3, 1972, pp 373-379

$$F(\alpha) = 1 - \exp[-m\alpha] \sum_{p=0}^{n-1} \frac{1}{p!} (m\alpha)^p \qquad (1)$$

$$F(\delta) = \operatorname{erf}(\alpha) = \frac{1}{\sigma\sqrt{2\pi}} \int_0^{\alpha} \exp\left[-\frac{(\delta - \delta_0)^2}{2\sigma^2}\right] \qquad (2)$$

$$F(\delta) = 1 - \exp[-\delta^n] \qquad (3)$$

2/2

USSR

UDC 541.183:546.246 - 31: 546.221

ASTAKHOV, V. A., DOBROTIN, R. B., MEYERSON, L. A., LUKIN, V. D., and STEPANOV, G. V., Belorussian Technological Institute imeni S. M. Kirov

"Adsorption of Carbon Dioxide and Carbon Disulfide by a Suspension of CaA Zeolite in Toluene"

Leningrad, Zhurnal Prikladnoy Khimii, Vol 43, No 12, Dec 70, pp 2655-2658

Abstract: The adsorption of CO_2 and CS_2 by the CaA zeolite, used as a 20% suspension in toluene, was studied. Toluene was selected as the dispersing medium because its molecules are too big to penetrate the micropores of the zeolite used. Binder-free zeolite was used. In addition to the suspension mentioned, also dry powdered zeolite was used in experiments. It was determined that with identical partial CO_2 pressure at equilibrium, the adsorption by a suspension is considerably lower from the adsorption by dry zeolite. At identical molal concentration in toluene solution, adsorption of CS_2 is considerably lower than the adsorption of CO_2.

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USSR UDC 541.183

ASTAKHOV, V. A., and DUBININ, M. M., Institute of Physical Chemistry Acad. Sc. USSR, and Belorussian Technological Institute

"Development of Concepts on Micropore Volume Filling During Adsorption of Gasses and Vapors by Microporous Adsorbents. 3 Communication. Zeolites With Large Cavities and Considerable Number of Adsorption Centers"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 1, Jan 71, pp 17-21

Abstract: The A and X type zeolites have a large porous volume and considerable number of cations dispersed in these spaces. A study was carried out on the adsorption of large and small molecules on such zeolites, considering the concepts of micropore volume filling. When sufficiently large molecules are used for adsorption studies, all the molecules being adsorbed are in direct contact with the adsorption centers even in case of maximum filling. It was shown experimentally that the adsorption equation of the theory of micropore volume filling

USSR

ASTAKHOV, V. A., et al., Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 1, Jan 71, pp 17-21

is applicable for certain temperature ranges which depend on the nature of the material being adsorbed. In case of small molecules, in addition to the adsorption on active centers, the filling of the remaining adsorption space of the zeolite takes place mainly as a result of dispersive forces. A binary adsorption equation was obtained describing adsorption equilibria in a wide temperature range.

2/2

USSR UDC 541.183

DUBININ, M. M., and ASTAKHOV, V. A., Institute of Physical Chemistry Acad. Sc. USSR and Belorussian Technological Institute

"Development of Concepts on Micropore Volume Filling During Adsorption of Gasses and Vapors by Microporous Adsorbents. 1. Communication. Carbonaceous Adsorbents"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 1, Jan 71, pp 5-11

Abstract: Various ideas are discussed on the volume filling of micropores during the adsorption of gasses and vapors by microporous adsorbents, for which the determining factor is the dispersive power as far as the adsorptive interaction is concerned. The theory of volume filling is based on the concept of a temperature independent characteristic adsorption equation expressing the distribution of the degree of filling the microporous volume by differential molar adsorption work. In this study the differential molar adsorption work was represented by the loss of Gibbs free energy, leading to a simplified equation suitable for experimental evaluation of the adsorption on activated carbon with different microporous structures. It was determined experimentally that with very fine pores the equation gives lower values.

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USSR

DUBININ, M. M., et al, Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 1, Jan 71, pp 5-11

For such cases the equation of Weibull was used in which the degree of filling was expressed as the loss of Gibbs free energy over characteristic adsorption energy to the power n. For most adsorbents n=2, for very fine micropores n=3. No drastic changes were observed when a transition occured from vapor to gas. It was also determined that the upper limit for temperature-independent differential molar adsorption work is limited to ΔS being less than 0.

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USSR

UDC 541.183

DUBININ, M. M., and ASTAKHOV, V. A., Institute of Physical Chemistry Academy of Sc. USSR and Belorussian Technological Institute

"Development of Concepts on Micropore Volume Filling During Adsorption of Gasses and Vapors by Microporous Adsorbents. 2 Communication. General Principles of the Theory of Gas and Vapor Adsorption on Zeolites"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 1, Jan 71, pp 11-17

Abstract: Dehydrated zeolites used as microporous adsorbents are characterized by the fact that in their micropores there are cations present which compensate the negative charges of their aluminum-silicate skeletons. These cations form adsorption centers for molecules with uneven distribution of electron density or highly polarized centers. These electrostatic interactions combine with the dispersive forces leading to considerable increase in adsorption energy. As a result, the isotherms for the adsorption of vapors on zeolites are

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USSR

DUBININ, M. M., et al., Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 1, Jan 71, pp 11-17

much steeper in the early stages of equilibrium pressures than in the case of active carbon. The number of cations in the zeolites available for the interaction with the molecules being adsorbed depends on the composition of zeolite, its crystallographic structure, the nature of the cations and the degree of ion exchange. In case of weak electrostatic interactions the adsorption on zeolites becomes similar to adsorption on microporous adsorbents containing no cationic type of active centers in their adsorptive space.

2/2

USSR

MOLCHAN, V. A., SHELEST, V. A., ASTAKHOV, V. I.

"Some Problems of Automation of Composition of a Class Schedule in a University Using the Minsk-22 Computer, with Kiev Institute of Petrochemistry as an Example"

Mekhaniz. Ucheta i Vychisl. Rabot. Mezhved. Nauch. sb. [Mechanization of Accounting and Calculation Work. Interdepartmental Scientific Collection], No 13, 1971, pp 105-111, (Translated from Referativnyy Zhurnal, Kibernetika, No 2, 1972, Abstract No 2 V726 by the author's).

Translation: An actual problem of introduction of a method of automation of the process of composition of a class schedule for the Kiev Institute of Petrochemistry is studied, with the task of assuring timely scheduling. A mathematical formulation of the problem of composition of a semester schedule is presented for the statement used in most universities.

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USSR

UDC 621.316.(001.1+003.13)

ASTAKHOV, YU. N., GORDIYEVSKIY, I. G., KARASEV, D. D.

"Economical Proportionality in the Electric Power Supply Systems of Municipal Rayons"

V sb. Tekhn. progress v elektrosnabzh. gorodov (Technical Progress in Electric Power Supply of the Cities -- collection of works), Leningrad, Energiya Press, 1970, pp 184-186 (from RZh-Elektrotekhnika i Energetika, No 4, Apr 71, Abstract No 4 Ye 273)

Translation: The economically expedient relations between expenditures on individual elements corresponding to the minimum calculated expenditures for the electric power supply systems of a new municipal rayon are defined. The relations obtained are recommended for estimating the economy of plans developed for electric power supply system construction and design. The bibliography has 7 entries. [Moscow Power Engineering Institute]

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USSR

UDC 621.315:621.59

ASTAKHOV, YU. N., Candidate of Technical Sciences, VENIKOV, V. A., Doctor of Technical Sciences, ZUYEV, E. N., OKOLOTIN, V. S., Candidates of Technical Sciences, Moscow

"Unconventional Methods of Power Transmission Using Deep Cooling"

Moscow, Elektrichestvo, No 5, May 1971, pp 1-9

Abstract: Possible areas of research in the field of unconventional methods of electric power transmission which can be connected in one way or another with the use of deep cooling are discussed. An effort is made to demonstrate that deep cooling must be considered the only real possibility for radical improvement of the carrying capacity of a transmission unit to such values as 30-50 gigawatts per circuit available today. The general characteristics of deep-cooled line transmission and microwave transmission are discussed. The state of the art of cryogenic electric power transmission lines is presented from both Soviet and foreign data. The initial characteristics and choice of parameters of superconducting AC lines with coaxial conducting elements, the application of superconducting storage elements and cryogenic cable research are discussed.

USSR

ASTAKHOV, YU. N., et al., Elektrichestvo, No 5, May 1971, pp 1-9

Cryogenic cables for various purposes can in the next 10-20 years solve the problem of transporting large amounts of power. Accordingly, scientific research in this field must be pushed. Superconducting AC lines must be compared with DC lines using type II superconductors. When designing superconducting AC lines for long distances, schemes insuring an increase in carrying capacity with respect to stability conditions and the best use of the conducting properties of the material must be considered. The application of superconducting magnetic systems can lead to the creation of effective electric power storage elements for regulating the operating conditions of the system in the presence of low variations.

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USSR UDC 669.7/.8.008

ASTAKHOV, YU. N., and OKOLOTIN, V. S.

"Principles of Designing Cryogenic Circuits of Electric Power Supply for Electrolytic Enterprises"

Sb. materialov Vses. seminara energetikov predpriyatiy tsvetn. metallurgii po ekon, elektroenergii (All-Union Seminar of Electrical Engineers of the Enterprises of Non-ferrous Metallurgy on the Question of Economizing on Electrical Power - collection of Transactions), Moscow, 1970, pp 120-138 (from RZh-Metallurgiya, No 11, Nov 70, Abstract No 11 G119)

Translation: The feasibility of applying cryogenic apparatus in the circuit of the electrical power supply for electrolytic shops for smelting Al, Mg, Ti, and other nonferrous metals is demonstrated. However, the following engineering problems must first be resolved: creating efficient tube reduction valves for helium and nitrogen temperatures; improving the design and reducing the cost of low-temperature insulation; developing techniques for the mas production of super-conducting coatings on different bases;

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USSR

ASTAKHOV, YU. N., and OKOLOTIN, V. S., Sb. materialov Vses. seminara energetikov predpriyatiy tsvetn. metallurgii po ekon elektroenergii, Moscow, 1970, pp 120-138 (from RZh-Metallurgiya, No 11, Nov 70, Abstract No 11 G119)

and developing satisfactory designs of vacuum couplings and current bridges between zones of different temperatures. Further analysis and experimental verification of the theoretical conclusions are necessary.

Acc. Nr: AP0048958 Ref. Code: UR0357

PRIMARY SOURCE: Vestnik Oftal'mologii, 1970, Nr 1, pp 8-12

METHODS OF STUDY AND BASIC CHARACTERISTICS OF THE OCULAR HEMODYNAMICS (EXPERIMENTAL INVESTIGATION)

Yu. S. Astakhov, V. N. Bortsov

Summary

Methods for experimental study of ocular hemodynamics are described, with the investigation carried out on cats. Thin polyethylene catheters measuring 0.1—0.2 mm in diameter were introduced into the posterior ciliary artery and intrascleral venous plexus. Intraocular tension in the anterior chamber was measured with the aid of a cannulated needle connected to an electric manometer. To measure the blood flow the polyethylene catheter was inserted into one of the major intrascleral veins, after all other venous branches have been ligated. Blood pouring out of the catheter was collected in gelatin capsules and then weighed with a torsion balance. The mean pressure in the long posterior ciliary artery amounted to 78.8 mm Hg (26 cats), that of intrascleral venous pressure comprised 10.67 mm Hg (35 cats), while the mean value of the uveal blood flow equalled 1.002 g/min (11 cats). The significance of the methods described for the study of the ocular hemodynamics and of its role in the regulation of ophthalmotone is considered.

1/1

REEL/FRAME 19800733

4th 2

AA0040730 Astakhov, Yu. V. UR 0482

Soviet Inventions Illustrated, Section I Chemical, Derwent, 1-70

243752 ELECTRODE SUPPORT OF INTERNAL ELECTRIC EROSION GRINDER. The support assembly (parts 1,2,4 and 5) is an addition to the original machine (patent No. 140313) the object of which is to reduce the deflection and vibration of the electrode 3. The support consists of a rod 2 mounted in a pivotting arm 1 and held against the electrode 3 by a spring 6. The support position is adjusted by a set screw and stop 5.

30.8.67 as 1184407/25-8.Add to 140313.YU.V.ASTAKHOV et al. AUTOMATIC EQUIPMENT FOR ELECTRICAL EROSION MACHINING DES. OFFICE (3.10.69) Bul 17/14.5.69. Class 21h. Int.Cl.B 23k.

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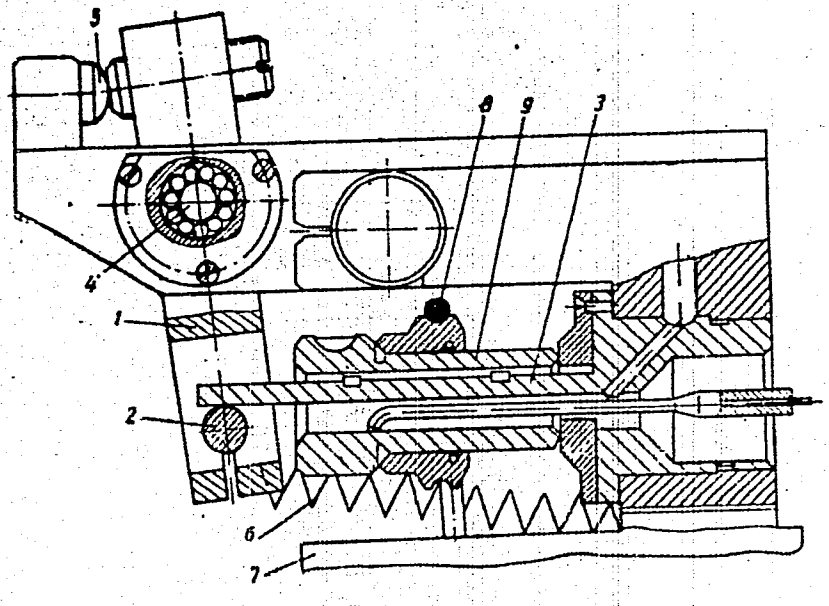
19750385

AA0040730



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AUTHORS: Astakhov, Yu. V.; Semushkin, V. G.; and Khromov, N. P.

Osoboye Konstruktorskoye Byuro po Proyektirovaniyu Sredstv Avtomatizatsii i Kontrolya i Elektroerozionnogo Oborudovaniya

19750387

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A

USSR UDC 621.791:62-762.65

GENKIN, A. G., Candidate of Technical Sciences, SMIRNOVA, S. V., Engineer, and ASTAKHOVA, A. P., Engineer

"Welding of Bellows From EI702 Alloys With Kh18N9T Steel Fittings"

Moscow, Svarochnoye Proizvodstvo, No 8, Aug 70, pp 44-45

Abstract: The initial bellows design unit specified bead forming of the bellows from EI702 alloy with Kl8N9T steel fittings. The bellows did not weld with the fittings and the joint disintegrated in the weld-affected zone. An attempt to arc-weld the bellows with fittings from EI702 alloys proved the possibility of producing a high-quality weld. This led to a new variant of a bellows unit in which the bellows were joined with the fittings by automatic arc welding and the fittings were joined with the body by friction welding. A microscopic examination of the weld of EI702 with Kh18N9T confirmed the possibility of obtaining a dense, flawless weld by friction welding. Metallographic analysis confirmed the reliability of the fusion of both materials in the bellows. After welding, the units were vacuum tested with a mixture of air and helium. The tests demonstrated that argon arc welding insures strength and airtightness and meets technical requirements.

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1/2 010 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--PREPARATION OF UNSATURATED ALCOHOLS BY THE HYDROGENATION OF ALPHA,BETA UNSATURATED ALDEHYDES IN THE PRESENCE OF AN IRIDIUM CATALYST

AUTHOR-(05)-KHIDEKEL, M.L., BAKHANOVA, E.N., ASTAKHOVA, A.S., BRIKENSHTEYN, KH.A., SAVCHENKO, V.I.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, SER. KHIM. 1970, (2), 499

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--HYDROGENATION, IRIDIUM, CATALYST, ALDEHYDE, FURAN, BENZENE DERIVATIVE, ALCOHOL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1997/0625 STEP NO--UR/0062/70/000/002/0499/0499

CIRC ACCESSION NO--AP0119537

UNCLASSIFIED

2/2 010 UNCLASSIFIED PROCESSING DATE--30OCT70
CIRC ACCESSION NO--AP0119537
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN THE PRESENCE OF IR CATALYST, UNSATD. ALDEHYDES, SUCH AS CH SUB2. CHCHO, MECH:CHCHO, PHCH:CHCHO, AND FURYLACROLEIN, ARE HYDROGENATED TO UNSATD. ALCS. IN 70-100PERCENT YIELDS. THE REACTION IS RUN AT NORMAL PRESSURE AND ROOM TEMP. THUS, 3 MILLIMOLES PHCH:CHCHO IN 10 ML 96PERCENT ETOH WITH 0.5 G 5PERCENT IR-C GAVE AFTER UPTAKE OF 1 MOLAR EQUIV. H, 100PERCENT PHCH:CHCH SUB2 OH. A 2ND MOLE H WAS TAKEN UP AT A MUCH REDUCED RATE. THE CATALYST MAY BE REUSED REPEATEDLY. FACILITY: INST. KHIM. FIZ., MOSCOW, USSR.

UNCLASSIFIED

1/2 014 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--CATALYTIC SYSTEM FOR HYDROGENATION OF UNSATURATED ALDEHYDES -U-

AUTHOR-(05)-KHIDEKEL, M.L., BAKHANOVA, E.N., ASTAKHOVA, A.S., BRIKENSHTEYN, KH.A., SAVCHENKO, V.I.

COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 164,352.

REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970, 47(9)

DATE PUBLISHED--03MAR70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--METAL CATALYST, ORGANIC PHOSPHORUS COMPOUND, CHEMICAL PATENT, HYDROGENATION, ALDEHYDE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3007/0829 STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0136263

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200220007-6"

2/2 014 UNCLASSIFIED PROCESSING DATE--04DEC70
CIRC ACCESSION NO--AA0136263
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE TITLE CATALYTIC SYSTEM CONTAINS A CATALYST, AN VIII GROUP METAL, AND AN ACTIVATING ADDITIVE. PHOSPHINES OF FORMULA R PRIME1 SUBN R PRIME2 SUMMNEGATIVE P, WHERE N EQUALS 0-3, M EQUALS 0-3, AND R PRIME1 AND R PRIME2 ARE ALKYL OR ARYL RADICALS, ARE USED AS THE ACTIVATING ADDITIVE. FACILITY: FILIAL ORDENA LENINA INSTITUTA KHIMICHESKOY FIZIKA AN SSSR.

UNCLASSIFIED

USSR

UDC: 621.315.621.5

FEDCHENKO, Ye. D., IBRAIMOV, N. S., KUZ'MIN, Ye. N., ASTAKHOVA, G. I.

"X-Ray Structural Study of the Process of Aging of Piezoceramic Materials of the TsTS System"

Elektron. tekhnika. Nauch.-tekhn. sb. Radiokomponenty (Electronic Technology. Scientific and Technical Collection. Radio Components), 1970, vyp. 5, pp 92-95 (from RZh-Radiotekhnika, No 6, Jun 71, Abstract No 6V479)

Translation: An x-ray study was made of ninety-degree reorientation of domains in the process of natural aging of polarized piezoceramic specimens of the TsTS system. It is found that one of the principal physical mechanisms of aging is ninety-degree motion of the domain wall. It is shown how the number of ninety-degree reorientations of domains depends on the temperature of the specimen during polarization. Resumé.

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1/2 013 UNCLASSIFIED PROCESSING DATE--11DEC70

TITLE--REMOVAL OF TRACE IMPURITIES IN PHOSPHORUS BY DISTILLATION WITH WATER VAPOR IN THE PRESENCE OF ION EXCHANGE RESINS -U-

AUTHOR-(03)-TALANOV, N.D., ASTAKHOVA, G.V., SHCHIGAREVA, ZH.T.

COUNTRY OF INFO--USSR

SOURCE--ZH. PRIKL. KHIM. (LENINGRAD) 1970, 43(4), 820-3

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CHEMICAL SEPARATION, PHOSPHORUS, ION EXCHANGE RESIN, COPPER, IRON, ALUMINUM, AQUEOUS SOLUTION/(U)PF ION EXCHANGE RESIN, (U)KF ION EXCHANGE RESIN

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3004/0965 STEP NO--UR/0080/70/043/004/0820/0823

CIRC ACCESSION NO--AP0131550

UNCLASSIFIED

2/2 013 UNCLASSIFIED PROCESSING DATE--11DEC70

CIRC ACCESSION NO--AP0131550

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A METHOD FOR PURIFYING WHITE P IS GIVEN. A SAMPLE OF P, PURIFIED CATION EXCHANGER (PF OR KF) WITH PHOSPHONIC ACID FUNCTIONAL GROUPS, AND PURE WATER (1:4:30) WERE PLACED IN A DISTN. APP. THAT WAS THEN EVACUATED AND FILLED WITH INERT GAS, AND STEAM WAS PASSED THRCUGH AT ATM. PRESSURE. THE TEMP. OF WATER IN CONDENSER AND IN RECEIVER WAS MAINTAINED AT 55-65DEGREES. THE PURIFIED P WAS TRANSFERRED INTO AN AMPUL, DIRED IN VACUO, AND TRANSFORMED INTO THE RED MODIFICATION. ANAL. CONTROL WAS PERFORMED BY SPECTROCHEM. METHOD. THE AMT. OF METALLIC IMPURITIES (CU, FE, AND AL IN THE PURIFIED P WAS SMALLER THAN OR EQUAL TO 1 TIMES 10 PRIME NEGATIVE6 PERCENT. THE ICNIC FORM OF THE RESIN (H PRIME POSITIVE, NA PRIME POSITIVE, OR NH SUB4 PRIME POSITIVE) APPARENTLY HAD NO EFFECT ON THE QUALITY OF PURIFICATION, BUT BETTER RESULTS WERE OBTAINED WITH KF THAN WITH PF EXCHANGER. THE PURITY OF THE PRODUCT SLIGHTLY DECREASED WHEN INCREASING DISTN. RATE (FROM 350 TO 1300 ML H SUB2 O-HOUR) AND AMT. OF P TAKEN (FROM 100 TO 200 G).

UNCLASSIFIED

Acc. Nr. AP0041405 Abstracting Service: CHEMICAL ABST. 4-70 Ref. Code UK 0000

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71799q Structure of the product from reaction of an equimolar mixture of 1- and 2-bromomethylnaphthalenes with enneacarbonyldiiron. A new π-complex with a trimethylenemethane-type ligand. Nesmeyanov, A. N.; Astakhova, L. S.; Zol'nikova, G. P.; Kritskaya, I. I.; Struchkov, Yu. T. (Inst. Org.-Elem. Comp., Moscow, USSR). *J. Chem. Soc. D* 1970, (2), 85 (Eng). X-ray diffraction study shows that the reaction product of an equimol. mixt. of 1- and 2-bromomethylnaphthalenes with $Fe(CO)_9$ is a π-complex with a trimethylenemethane ligand, which constitutes a part of the 2-naphthylmethyl group, the latter being alkylated in the 4-position of its coordinated benzene ring by the 1-naphthylmethyl radical, which does not participate in coordination with the Fe. The complex is monoclinic with space group $P2_1/c$ with cell dimensions a 8.36, b 17.63, c 13.73 Å, β 95°, d. 1.40, and $Z = 4$.
DSJN

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REEL/FRAME
19751270

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1/2 013 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--DEPENDENCE OF THE TECHNICAL PROPERTIES OF PORTLAND CEMENT ON ALKALI CONTENT -U-

AUTHOR-(03)-ASTAKHOVA, M.A., TURETSKIY, A.M., SHTEIYERT, N.P.

COUNTRY OF INFO--USSR

SOURCE--TSEMENT 1970, (2), 18-19

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--CEMENT, GYPSUM, BENDING STRENGTH, COMPRESSIVE STRENGTH, SULFATE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/1692 STEP NO--UR/0101/70/000/002/0018/0019

CIRC ACCESSION NO--AP0125313

UNCLASSIFIED

2/2 013 UNCLASSIFIED PROCESSING DATE--30OCT70
CIRC ACCESSION NO--AP0125313
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CLINKERS WITH HIGH ALKALI CONTENT WERE GROUND TO 3000 CM PRIME2-G. GYPSUM WITH 6000 CM PRIME2-G WAS ADDED DURING GRINDING TO ATTAIN AN SO SUB3 CONTENT OF 3.25PERCENT. AN INCREASE IN THE ALKALI CONTENT DOES NOT ADVERSELY AFFECT THE STRENGTH OF THE CEMENT. DURING BENDING AND COMPRESSION TESTS IN THE 1ST PERIODS OF HARDENING A CERTAIN STRENGTH INCREASE WAS OBSD. WITH INCREASED ALKALI CONTENT. AFTER 28PERCENT DAYS THE DIFFERENCE LEVELED OUT. THIS MAY BE DUE TO THE USE OF OIL SHALES AS FUEL, THEIR S COMPDS. FORMING SULFATES WITH THE ALKALIES. THE EFFECT OF AN ACTIVE HYDRAULIC ADDN. WAS STUDIED WITH 12 TREPEL. AUTOCLAVE EXPANSION OF CEMENTS WITH SUCH AN ADDN. IS LOWERED TO SIMLIAR TO 1-8-1-6 COMPARED WITH CEMENT WITHOUT ADDN. WITH AN ALKALI CONTENT OF 1.12-2.34PERCENT THE STRENGTH OF CEMENTS AFTER 1 YEAR IS NOT AFFECTED. WITH INCREASING ALKALI CONTENT THE AUTOCLAVE EXPANSION INCREASES NOTICEABLY. TREPEL AS ACTIVE MINERAL ADDN. DECREASES THIS EXPANSION. THE UNIFORM CHANGES IN VOL. ARE IN AGREEMENT WITH INTERNATIONAL STDS.

UNCLASSIFIED

USSR

UDC 537.311.33:546.22'48

ASTAKHOVA, N.A., VADOV, G.I.

"Study Of The Impedance Of Polycrystalline Films Of Solid Substances Of CdS.SdSe In The Structure M-CdS.CdSe-M"

Sb.Nauch. tr. po probl. mikroelektron. Mosk. in-t elektron. tekhn. (Collection Of Scientific Works On Problems Of Microelectronics. Moscow Insitute Of Electronics Technology), 1971, Issue 7, pp 36-42 (from RZh:Elektronika i yeye primeneniye, No 6, June 1972, Abstract No 6B52)

Translation: The experimental part of the study was conducted on a berrier model of the conductivity of polycrystalline films. 3 ref. Summary.

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USSR

UDC 543.70

CHERKESOV, A. I., ARGISHEVA, A. I., ASTAKHOVA, N. K., KONYAKHINA, A. A., Saratov State Pedagogic Institute

"Spectrophotometric Study of Complex Formation of Thorium with Bromophthalexon-S and n-Xylenolphthalexon-S"

Ivanovo, Izvestiya Vysshikh Uchebnykh Zavedeniy, Khimiya i Khimicheskaya Tekhnologiya, Vol XIV, No 7, 1971, pp 999-1002

Abstract: Oxyaminopolycarboxylic acids of the triphenylmethane series are widely used in analytical chemistry as reagents for the ions of many metals [V. G. Brudz', et al, Trudy IRYeA, No 30, 145, 1967]. A study is made here of the complex formation of thorium with new representatives of this series of compounds: 3,3'-bis'N,N'-di(carboxymethyl)aminomethyl-5,5'-dibromosulfophthaleine (bromophthalexon-S -- I) and 3,3'-bis-N,N'-di(carboxymethyl)aminomethyl-xylenolsulfophthaleine(n-xylenolphthalexon-S -- II). The study was performed spectrophotometrically. A ratio of Th:I = 1:1 was established for pH 1.5-3.0; Th:II = 1:1 for pH 1.8-3.0 and Th:II = 1:2 for pH 4-6. The molar absorption coefficients and pK of the provisional instability constants of the thorium complexes are, respectively: with I, $\varepsilon = 1.91 \cdot 10^4$ and pK = 5.95; with II $\varepsilon_1 = 1.77 \cdot 10^4$ and $\varepsilon_2 = 2.53 \cdot 10^4$; $pK_1 = 4.15$ and $pK_2 = 7.45$. The absorption

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USSR

CHERKESOV, A. I., et al., Izvestiya vysshikh uchebnykh zavedeniy, Khimiya i khimicheskaya Tekhnologiya, Vol XIV, No 7, 1971, pp 999-1002

spectra of the molecular and ionic forms of the two reagents and their complexes with thorium are presented. Formulas are given for the complex formation process, and the mechanism of the reaction is discussed. The thorium complexes with the two reagents can dissociate with respect to some of the carboxyl groups. However, under conditions of constant acidity this has no effect on the optical properties of the solutions of the complexes, and the relations between the various forms of the complexes of one and the same composition remain constant. Thus, the molar absorption coefficients ε and pK of the provisional instability constants of the complexes were calculated by the Komar' method [N. P. Komar', Uch. zap., Vol 37, Tr. n.-i. in-ta khimii, Khar'kov University, No 8, 37, 1951].

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USSR UDC 611.127+611.145/.146+611.132]:611.83]:613.73

PRIVES, M. G., ASTAKHOVA, V. V., STEPANTSOV, V. I., and YEREMIN, A. V., Chair of Normal Anatomy and Central Scientific Research Laboratory, First Leningrad Medical Institute imeni, Academician, I. P. Pavlov

"The Effect of Transverse Accelerations on the Nerve Structures of the Aorta, Venae Cavae, and Auricles"

Leningrad, Arkhiv Anatomii, Gistologii i Embriologii, No 5, 1970, pp 32-37

Abstract: In experiments on dogs, single or repeated exposures to steadily intensifying transverse accelerations that did not result in decompensation failed to produce morphological changes in the nerve structures of the auricles, venae cavae, and aorta, regardless of the magnitude of the accelerations. On the other hand, exposure to accelerations of magnitudes that resulted in pronounced decompensation produced gross morphological changes, including disintegration of the nerve fibers and endings in the wall of the articles and blood vessels. Preliminary training on a centrifuge enabled the animals to tolerate stress better and decrease the response of nerve structures even to accelerations of such magnitude as to impair compensation. Relative bradycardia is suggested as an indicator of impending failure of cardiovascular compensation induced by transverse accelerations.

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1/2 032 UNCLASSIFIED PROCESSING DATE--09OCT70

TITLE--ACTIVE METABOLITES IN PERSONS TREATED WITH BENZYLPENICILLIN -U-

AUTHOR-(03)-YAKOBSON, L.M., ASTANINA, L.N., SNEZHNOVA, L.P.

COUNTRY OF INFO--USSR

SOURCE--ANTIBIOTIKI, 1970, VOL 15, NR 5, PP 455-457

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--PENICILLIN, ANTIBIOTIC DRUG EFFECT, URINE, CHROMATOGRAPHY, UV SPECTROPHOTOMETER, METABOLISM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1994/1133 STEP NO--UR/0297/70/015/005/0455/0457

CIRC ACCESSION NO--AP0115152

UNCLASSIFIED

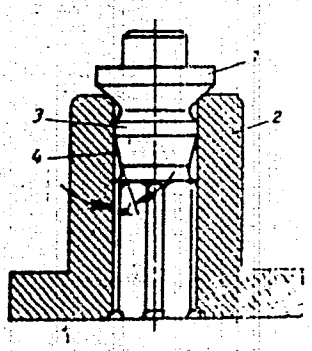
2/2 032 UNCLASSIFIED PROCESSING DATE--09OCT70
CIRC ACCESSION NO--AP0115152
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE DATA PRESENTED INDICATE THAT URING OF PERSONS TREATED WITH THERAPEUTIC DOSES OF SODIUM BENZYLPENICILLIN CONTAINS BESIDES THE ANTIBIOTIC ADMINISTERED ITS METABOLITES, I. E. 6 AMINOPENICILLANIC ACID, PARA OXYBENZYLPENICILLIN AND A NON IDENTIFIED BIOLOGICALLY ACTIVE METABOLITE. THE PRESENCE OF PARA OXYBENZYLPENICILLIN IN THE URINE WAS SHOWN BY PAPER CHROMATOGRAPHY AND CONFIRMED BY ULTRAVIOLET SPECTROPHOTOMETRY OF ELUATED FROM THE CORRESPONDING AREAS OF THE URINE CHROMATOGRAMS. THE NUMBER OF THE METABOLITES AND THEIR AMOUNTS ACCORDING TO THE GROWTH INHIBITION ZONES OF THE TEST MICROBES WERE DIRECTLY PROPORTIONAL TO THE DOSE OF THE ANTIBIOTIC ADMINISTERED. INACTIVATION BY PENICILLINASE OF THE METABOLITES FOUND IN THE URINE OF PERSONS TREATED WITH BENZYLPENICILLIN ONCE MORE CONFIRMED THEIR ORIGIN FROM BENZYLPENICILLIN.
FACILITY: CONTROL INSTITUTE FOR MEDICAL BIOLOGICAL PREPARATIONS, MOSCOW.

UNCLASSIFIED

AA0046300 ASTANSKIY Yu L 0482

Soviet Inventions Illustrated, Section III Mechanical and General, Derwent, 2-70

244007 PRESSURE VALVE FOR A DIESEL PUMP is improved by using a valve 1 in case 2 and shaping the valve with a relief shoulder 3 topping the conical section 4. The grading of the angle 'a' of the core section determines the speed characteristic of the pump.



1.3.68 as 1222321/24-6 Yu.L. ASTANSKII (3.10.69)
Bul. 17/14.5.69. Class 46c, Int. Cl. F 02m.

19781457

Miscellaneous

USSR

BODYAKO, M. N., Doctor of Technical Sciences, and ASTAPCHIK, S. A., Candidate of Technical Sciences

Sverkhtverdyye Materialy i Tekhnika (Superhard Materials and Technology), Moscow, "Znaniye," 1971, 29 pp.

Translation of Annotation: The development of technology is tied to an increase in the working parameters of parts, constructions, and, consequently, the materials from which they are made. This is explained by increased operating temperatures during the simultaneous action of significantly long and cyclic loads under conditions of agressive media. The hardest objects for primitive man were bone and stone. These were replaced by bronze and iron, and thus was completed the revolution in which man was established as the active shaper of his environment and of himself. It was only twenty years ago that technology developed materials which could operate at temperatures up to 750--800° C. But today, we speak of materials which can operate at 1000--1500° C. This booklet discusses superhard materials and their use in current technology.

Translation of Table of Contents:

USSR

BODYAKO, M. N., and ASTAPCHIK, S. A., Sverkhtverdyye Materialy i Tekhnika, Moscow, "Zaaniye," 1971, 29 pp

- END -

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7676

USSR UDC 669.15-194.55:621.785.784

BODYAKO, M. N., SACHKOV, V. V., ASTAPCHIK, S. A., and OLEFIRENKO, V. M., Physicotechnical Institute, Academy of Sciences BSSR

"On the Question of Work Hardening and Softening of Martensite-Aged Steels"

Minsk, Akademiya Nauk BSSR, Izvestiya, Seriya Fiziko-Tekhnicheskikh Nauk, No 2, 1970, pp 46-50

Abstract: A study was made of phase and structural transformations in martensite-aged steel with increased content of cobalt and molybdenum under the conditions of fast continuous heating and after different regimes of cold and hot deformation. The steel had the following chemical composition (wt. %): C -- 0.022; Ni -- 12.4; Mo -- 10.8; Co -- 16.48; Ti -- 0.10; Al -- 0.08; Mn -- 0.02; Si -- 0.05; B -- 0.003; P -- 0.0045. Results are presented of the investigation of heat hardening and softening of martensite-aged steel after cold and hot deformation under conditions of electrical heating at rates up to 300 deg/sec.
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1/2 032 UNCLASSIFIED PROCESSING DATE--09OCT70
TITLE--THERMAL TREATMENT AND PROPERTIES OF MARTENSITE AGING STEEL OF THE 00N12K16M11 TYPE -U-
AUTHOR-(04)-BODYAKO, M.N., ASTAPCHIK, S.A., YAROSHEVICH, G.B., OLEFIRENKO, V.M.
COUNTRY OF INFO--USSR

SOURCE--VESTSI AKAD. NAVUK BELARUS. SSR, SER. FIZ. TEKH. NAVUK 1970, (1), 47-53
DATE PUBLISHED--------70

SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR, MATERIALS

TOPIC TAGS--STEEL HEAT TREATMENT, HIGH STRENGTH STEEL, HOT ROLLING, CRYSTAL STRUCTURE, MARTENSITIC STEEL, STEEL HARDENING, METAL AGING/(U)00N12K16M11 HOT ROLLED STEEL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1994/1930 STEP NO--UR/0201/70/000/001/0047/0053

CIRC ACCESSION NO--AP0115742
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2/2 032 UNCLASSIFIED PROCESSING DATE--090CT70

CIRC ACCESSION NO--AP0115742

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. BY TAKING INTO ACCOUNT THE RESULTS OF PREVIOUS WORK (B., ET AL., 1968), THE PRESENT WORK CONSTITUTES A FURTHER AND MORE DETAILED STUDY OF THE NATURE OF STRUCTURAL TRANSFORMATIONS AND PROPERTIES OF THE TITLE ALLOY. THE MATERIAL WAS HOMOGENIZED, FORGED, AGED, AND HARDENED. ANAL. OF THE DATA SHOWS THAT WITHIN THE AGING RANGE WHICH IS GENERALLY RECOMMENDED AS BEING THE OPTIMUM ONE, ONE CAN OBTAIN HIGH STRENGTH VALUES, NAMELY, 260-300 KG-MM PRIME2. THE PLASTICITY THEREBY IS VERY SATISFACTORY. UNDER REAL CONDITIONS DURING THE EXISTANT TECHNOL. OF MELTING AND HOT PROCESSING OF STEEL IT IS DIFFICULT TO PREVENT STRESS CONCNS., IN THE FORM OF BRITTLE IMPURITIES, FROM ENTERING THE MATERIAL. THE STRENGTHENING OF MARTENSITE DURING AGING IS ASSOCD. WITH THE EARLY STAGES OF FORMATION OF PARTICLES OF THE SECONDARY PHASE. THE DIFFERENCES BETWEEN LOW TEMP. AND HIGH TEMP. AGING ARE DISCUSSED. QUENCHING IS THE ONE PROCESS THAT WOULD MOST SIGNIFICANTLY REDUCE THE LARGE SCATTER IN THE PROPERTIES OF THE MATERIAL FROM SAMPLE TO SAMPLE. CORRECT MARTENSITE AGING OF HOT ROLLED STEEL OON12K16M11 AT 480-520DEGREES FOR 3 HR WILL RESULT IN STRENGTH VALUES OF 260-300 KG-MM PRIME2, WITH SATISFACTORY PLASTICITY AND DUCTILITY VALUES. RAPID CONTINUOUS HEATING AT 950-1200DEGREES MAKES IT POSSIBLE TO OBTAIN A FINE GRAINED (5-30 MU) STRUCTURE. HOWEVER, NO SUBSEQUENT AGING PRODUCES SATISFACTORY PLASTICITY. FACILITY: FIZ. TEKH. INST., MINSK, USSR.

UNCLASSIFIED

cc. Nr.: AP0028768

Ref. Code: UR 0050

PRIMARY SOURCE: Meteorologiya i Gidrologiya, 1970, Nr 1, pp 3-10

IN COMMEMORATION OF THE 150th ANNIVERSARY OF THE ANTARCTICA DISCOVERY

P. D. Astapenko

Merits of Russian and Soviet science in the study of Antarctic are elucidated in the article, as well as success gained in research of climate, atmospheric circulation, ice cover and state both of the surface of the Antarctic continent and water regime of its surrounding seas for a 150-year period since the moment of the Antarctica discovery by Russian navigators.

USSR UDC 532.5

ASTAPENKO, V. M., Moscow

"Nonstationary Flow of an Incompressible Liquid Around a Doubly Periodic Lattice"

Moscow, Prikladnaya Matematika i Mekhanika, Vol 37, No 3, 1973, pp 488-496

Abstract: A study was made of the method of singularity overlap to prove its validity in solving the problem of nonstationary flow of an incompressible liquid around a doubly periodic lattice of arbitrary bodies. The proof is presented by means of the constructed Green function which has the property of quasiperiodicity. A study was made of doubly periodic lattices, the elements of which are monopoles and dipoles oscillating with constant phase shifts. The exact integral representations of the disturbance potential for these lattices were found, and its basic properties and asymptotic behavior far from the lattice are investigated. According to D. N. Gorelov, et. al. [Azrodinamika reshetok v nestatsionarnom potoke, Novosibirsk, Nauka, 1971] and G. S. Samoylovich [Nestatsionarnoye obtekaniye i azrouprugiye kolebaniya reshetok turbomashin, Moscow, Nauka, 1969], the solution of the problem of nonstationary flow of a liquid around a lattice the elements of which oscillate according to arbitrary laws in time τ is reduced by the Fourier method to the sum of the solutions of the problems of flow around the lattice, the elements of which complete oscillations of one type, but in the presence of a constant phase shift

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USSR

ASTAPENKO, V. M., Prikladnaya Matematika i Mekhanika, Vol 37, No 3, 1973, pp 448-496

between the oscillations of adjacent elements. The problem of spatial flow of an incompressivly liquid around a lattice, the elements of which are bodies with piece-wise-smooth boundaries containing harmonic oscillations is investigated.

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USSR UDC 534.26

ASTAPENKO, V. M., Acoustic Institute, Moscow

"The Reflection of Sound by a Corrugated Impedance Surface"

Moscow, Doklady Akademii Nauk SSSR, Vol 195, No 6, 21 Dec 70, pp 1296-1299

Abstract: The method proposed by G. D. Malyuzhinets to solve a similar problem formulated by him is applied to the problem of the reflection of sound from a corrugated impedance surface. 1 figure, 3 bibliographic entries.

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USSR

UDC 576.8.095:615.479.90

KOROTYAYEV, A. I., ASTAPOV, A. A. and KARASEVA, E. V.

"The Physiological Role of Antibiotics and the Mechanism of Their Antimicrobial Action"

Uspheki Mikrobiologii, pp 199-210

Abstract: A review is given of the latest works on the mechanism of action of antibiotics on the microbial cell. In accordance with literature data and their own research, the authors develop an original hypothesis about the biological nature of antibiotics and their role for microbe-producers. It is considered that antibiotics are biological effectors, monitoring the activity of various enzyme systems of producer cells. Thanks to their effector nature, antibiotics in the cells of organisms which are sensitive to them can interact with regulator proteins and cause changes in conformation, which lead to partial inhibition of the specific activity of enzymes or to complete inhibition. The bacteriostatic effect of antibiotics is, as a rule, based on biosynthesis of protein at the ribosome level. It appears that ribosome proteins are carriers of receptors which are sensitive to antibiotics. Attaching antibiotic molecules to such receptors produces a screening effect: due to partial change in the conformation of the protein subunit, the corresponding ribosome sector

USSR

KOROTYAYEV, A. I., et al., Uspheki Mikrobiologii, pp 199-210

cannot interact with RNA or the anticodon, aminoacyl-S-RNA. Restoration of normal ribosome function after the antibiotics are removed is explained by the reversibility of allosteric protein transfers.

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